U.G. 1st Semester Examination - 2020

ZOOLOGY

[HONOURS]

Course Code : ZOOL-H-CC-T-02

Full Marks : 40 Time : $2\frac{1}{2}$ Hours

The figures in the right-hand margin indicate marks.

Candidates are required to give their answers in their own words as far as practicable.

1. Answer any **five** questions of the following: 2×5=10

a) State the features of a true coelom.

b) What are the evolutionary significance of coelom and segmentation in animals?

c) Why metmerism in annelids is called homonomous and complete?

d) What is termitarium?

e) What is eclosion? Write down the name and source of the hormone involved in this process.

f) What are the changes that have occurred in the relative positions of organs of Gastropods due to torsion?

g) State the phylogenetic significance of echinoderm larvae.

h) In which phylum *Balanoglossus* belongs to? State reasons.

2. Answer any **two** questions of the following: 5×2=10

a) Compare true metamerism with pseudometamerism with examples. Discuss the locomotion theory of R.B. Clark to explain the origin of metamerism. 3+2

b) "Onychophorans are not arthropods – but do seem to be closely related to arthropods." – Justify the statement. 5

c) What are the larval forms of Asteroidea? Describe any one of them with neat labelled diagram. State the functions of tube feet. 1+3+1

d) State the reasons why Hemichordates are called half chordates. Mention the resemblances of hemichordates with echinoderms. 3+2

3. Answer any **two** questions of the following: $10 \times 2 = 20$

a) Describe the components of nervous system of gastropods. Discuss the effects of torsion on nervous system of Gastropods. Delineate the mechanism by which torsion occurs in most gastropods. 4+3+3

b) Why termites are called eusocial? Write a short note on reproductive castes of termite colony. Discuss about the organs of respiration in Crustaceans. 2+3+5

c) Delineate the structure of a typical nephridium with suitable diagram. Briefly discuss the physiology of excretion through nephridia. Mention the location and number of septal nephridia in earthworm. Distinguish between septal nephridia and pharyngeal nephridia. 4+3+1+2

d) State at least three distinguishing features and one example of the following taxons: $2\frac{1}{2} \times 4$

i) Class Hirudinea

ii) Class Arachnida

iii) Class Bivalvia

iv) Class Echinoidea

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